

CLAIMS

We claim:

1. An ASP delivery method, comprising:
  - providing a short-range radio frequency communications system, said system having a host computing device connected to a computer communications network over a physical communications link medium, said system being configured both to provide ASP services over short-range radio communications links to wireless devices in a personal area network (PAN), and also to receive ASP services from other ASPs in said computer communications network over said physical communications link medium;
  - establishing a short-range radio communications link with a wireless device in said PAN;
  - receiving requests for selected ASP services from said wireless device;
  - determining if said host computing device can provide said requested ASP services without requiring further assistance from another ASP; and,
  - if said host computing device cannot provide said requested ASP services without requiring further assistance from another ASP, retrieving said requested ASP services from another ASP over said physical communications link medium and forwarding retrieved ASP services to said wireless device in said PAN over said short-range radio communications link.
2. The method of claim 1, wherein said step of establishing a short-range radio communications link with said wireless device in said PAN comprises:
  - establishing a BLUETOOTH-based communications link with said wireless device.
3. The method of claim 1, wherein said step of establishing a short-range radio communications link with said wireless device in said PAN comprises:
  - establishing an IEEE 802.11b based communications link with said wireless device.

1 4. The method of claim 1, wherein said step of establishing a short-range radio  
2 communications link with said wireless device in said PAN comprises:  
3 establishing an IEEE 802.11a based communications link with said wireless  
4 device.

1 5. An ASP delivery system comprising:  
2 a host computing system configured to communicate both with a  
3 communications network over a physical communications link medium and also with a  
4 plurality of wireless devices in a personal area network (PAN);  
5 a short-range radio communications system for establishing and maintaining  
6 wireless communications in said PAN; and,  
7 a list of ASP services which can be accessed by said wireless devices in said  
8 PAN, said list indicating which ASP services can be distributed to said wireless devices  
9 in said PAN, said ASP services in said list residing locally in said host computing  
10 system and remotely in ASP servers in said communications network.

1 6. The system of claim 5, wherein said short-range radio communications system  
2 comprises:  
3 a short-range radio communications system configured in accordance with  
4 BLUETOOTH specifications.

1 7. The system of claim 5, wherein said short-range radio communications system  
2 comprises:  
3 a short-range radio communications system configured in accordance with  
4 IEEE 802.11b.

5 8. The system of claim 5, wherein said short-range radio communications system  
6 comprises:

an short-range radio communications system configured in accordance with IEEE 802.11b.

9. A machine readable storage having stored thereon a computer program for delivering ASP based services, said computer program comprising a routine set of instructions for performing the steps of:

establishing a short-range radio communications link with a wireless device in a personal area network (PAN);

receiving requests for selected ASP services from said wireless device;

determining if said requested ASP services can be provided without requiring further assistance from an external ASP; and,

if said requested ASP services cannot be provided without requiring further assistance from an external ASP, retrieving said requested ASP services from an external ASP and forwarding said retrieved ASP services to said wireless device in said PAN over said short-range radio communications link.

10. The machine readable storage of claim 9, wherein said step of establishing a short-range radio communications link with said wireless device in said PAN comprises:

establishing a BLUETOOTH-based communications link with said wireless device.

11. The machine readable storage of claim 9, wherein said step of establishing a short-range radio communications link with said wireless device in said PAN comprises:

establishing an IEEE 802.11b based communications link with said wireless device.

12. The machine readable storage of claim 9, wherein said step of establishing a short-range radio communications link with said wireless device in said PAN comprises:

3 establishing an IEEE 802.11a based communications link with said wireless  
device.

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